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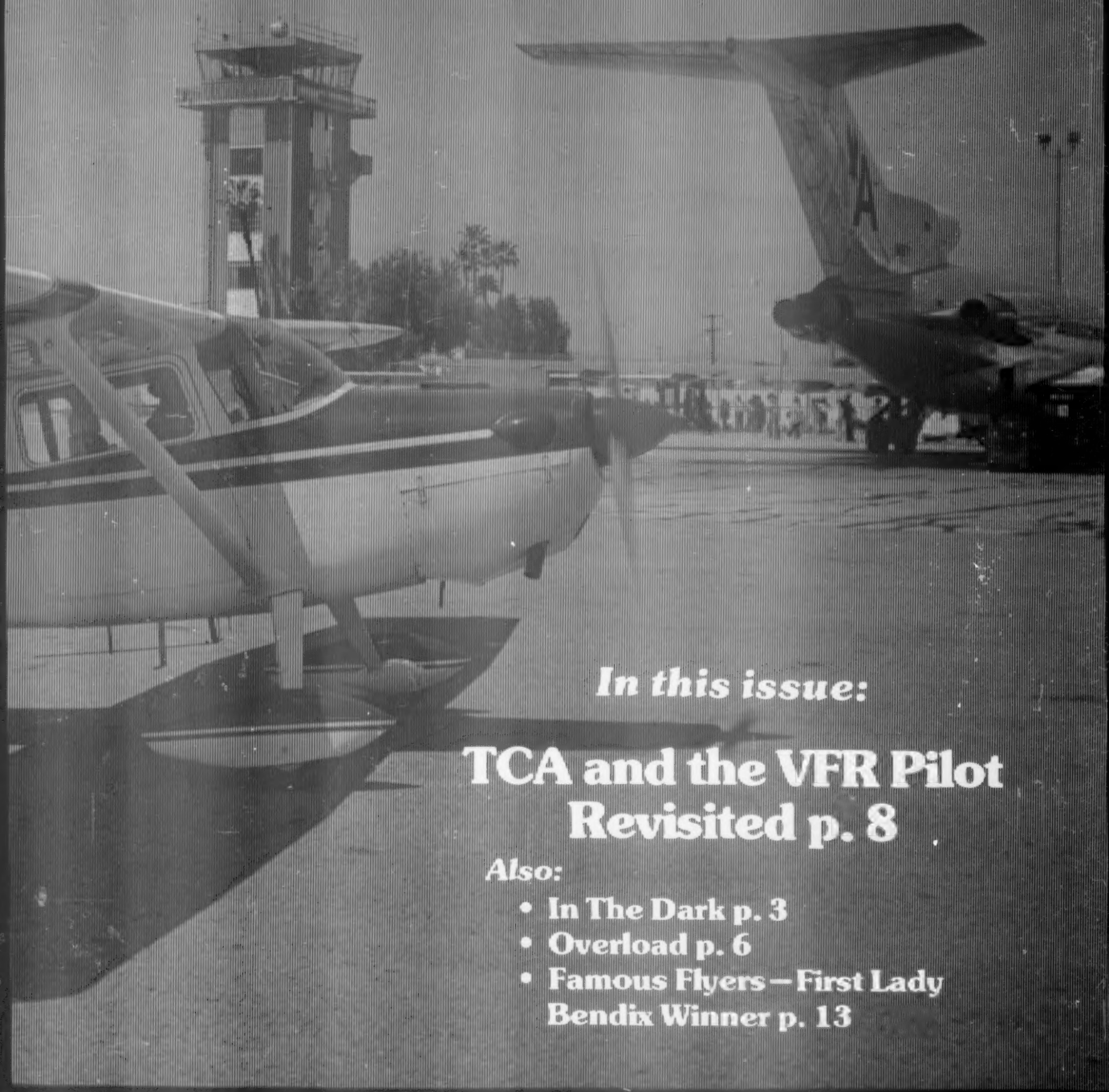

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FAA GENERAL AVIATION NEWS

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BRIEFS

JUMP FROM SEA LEVEL. Aviation Safety Reports show that some pilots of parachute-jump aircraft, when reporting "Jumpers Away" to air traffic control, are giving their altitude in terms of above ground level. Although FAR 105.25 does require the intended AGL altitude for advance notification of a jump, controllers need to know the mean sea level altitude of the aircraft when the jump is taking place, in order to assure accurate traffic advisories and separation service. A rule change to clear up possible confusion is being considered. See Advisory Circular 105.2A, "Sport Parachute Jumping."

REACTION TO DISTRACTION. Pilots undergoing certification flight tests should be able to maintain continuous control of the aircraft when confronted with distractions of various kinds. Failure to do so was cited in an FAA study on stall/spin accidents as being the leading cause of such accidents. FAA inspectors and pilot examiners are now authorized to simulate or provide common distractions while conducting check rides and to rate the pilot applicants on their response. Advisory Circular 61–92, issued January 25, 1980, provides information on the use of distractions during pilot certification flight tests.

RETURN OF THE ELT POSTPONED. The deadline for reinstalling ELT's on some 52,000 private aircraft has been extended from March 28 to October 15, 1980 because of a shortage of newly designed batteries to power the units. Only ELT's manufactured by Communications Components Corp., Garrett Manufacturing, and Leigh Systems are affected by the extension. All others must comply with the March 28 deadline.

Some 75,000 aircraft had their ELT's removed in 1979 following incidents resulting from crew incapacitation from noxious fumes or aircraft corrosion damage from leaking lithium sulfur dioxide ($LiSO_2$) batteries specified by several ELT manufacturers. Although new technical standards for ELT batteries were released in August of 1979, overall compliance with the March 28 reinstallation deadline for ELT's became impossible when many manufacturers switched to a different type of battery. Under the new standards not enough $LiSO_2$ batteries were on hand for the thousands of ELT's involved.

Pilots are reminded not to try to reinstall their ELT's. To assure proper installation and function, a qualified mechanic must do the work.

AIRSHOW CAUTION. Flight operations over open-air assemblies of people and below the minimum safe altitude (1,000 ft.) must be approved in advance by the nearest FAA District Office. Last Labor Day in Dillon, MT., two National Guard F–106 aircraft participating in a holiday parade flew over the crowd at an altitude of 100 ft.; one struck the top of a 109-ft. grain elevator, exploded, and crashed, killing the pilot and injuring 16 people on the ground. Unless the minimum safe altitude rules are waived by FAA, such operations are not authorized for any aircraft, military or civilian. No request for waiver was submitted to FAA in this instance.

IN THE DARK

Lives have been lost for lack of an ammeter scan

How would you feel if you suddenly lost all electrical power just as you were preparing to land at a small airport in the pitch darkness of midnight? You can't see the panel instruments, you can't communicate, and you can't lower the gear manually because you can't find the gear crank in the dark because you have no source of illumination whatever—no flashlight, not even a bent match stick. What *will* you do?

A situation of this kind was experienced by the pilot/owner of a Twin *Commanche* recently in central Missouri. Accompanied by one passenger, the 500 hour pilot, a local physician, had taken off from Poplar Bluff at 10:10 p.m. on a short flight to Rolla, Mo. The March night was very dark, with ceiling 4,000′ scattered, 12,000′ broken. The flight was conducted VFR, apparently routine, except that as he settled into his cruise altitude the pilot noticed that his wingtip lights and his panel lights seemed to be "less bright than usual." Everything else seemed in order, and he made no further investigation.

Descending toward Rolla, the pilot reduced speed and flipped the switch to lower his landing gear. He was greeted by a sudden and complete blackout of the entire lighting system and radio failure. Holding his course visually toward the lighted airport, the pilot groped frantically for a flashlight but found none, nor any matches. He suspected that the landing gear was not fully down or locked, but he had no way of confirming his suspicions. (He was not aware of the veteran pilot's technique for locking the gear by means of a sharp pull-up—which occasionally works.) In the darkness of the cockpit he could not find the wobble pump handle for lowering the gear by hand. He established what appeared to be a normal glide angle for the landing approach, reduced speed as much as he dared, and hoped for the best. On touchdown the gear collapsed and the airplane skidded to a stop at the edge of the runway, with only moderate damage and no injuries to the pilot or his passenger.

Investigators who inspected the cockpit immediately after the accident found the master switch on but the generator switch in the "Off" position. The pilot recalled that after noticing the dimness of his lights he had checked the master switch and the magnetos, but not the generator switch. He was in the habit of leaving the generator switch on at all times, and therefore had no reason to think it might be otherwise. However, he also recalled that some hours before departing Poplar Bluff he had instructed a mechanic to replace the rotating beacon light on his airplane, and it was possible the mechanic had noticed that the generator switch was on and had turned it off.

The pilot said he was aware of the ammeter instrument in the panel, but he was not sure about its significance and assumed it was unimportant. He has "learned his lesson," and now reads the ammeter every 15 minutes as part of his instrument scan; and double checks the position of both switches.

This pilot and his passenger were lucky. Electrical failures, especially at night, often have serious or tragic consequences. In a recent accident involving a twin *Aztec* near Seattle, all eight persons on board died when the pilot attempted to land in IFR conditions without electrical power. Over a two-year period, 1977–78, there were 47 accidents in which electrical failure was a principal factor, according to the National Transportation Safety Board. Five of the accidents were fatal, with 15 fatalities. There were three inflight fires, and two cases of fire erupting on the ground.

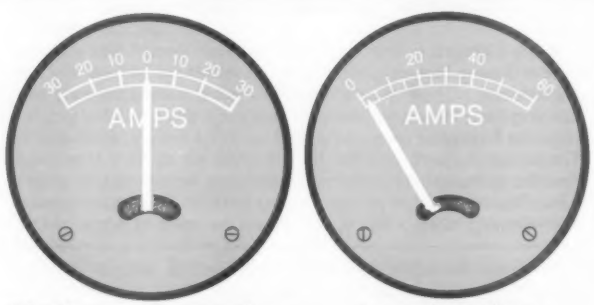
Most of these accidents could have been prevented if the pilots had a better understanding of aviation electrical systems or had used better scanning practices to monitor these systems.

Modern flying has become very dependent upon the so-called auxiliary electrical system (which includes all electrically powered components except the ignition). An in-flight failure often precipitates an emergency situation, especially at night, in IFR conditions, or VFR over unfamiliar ground. The components which commonly are electrically activated include all or some of the following:

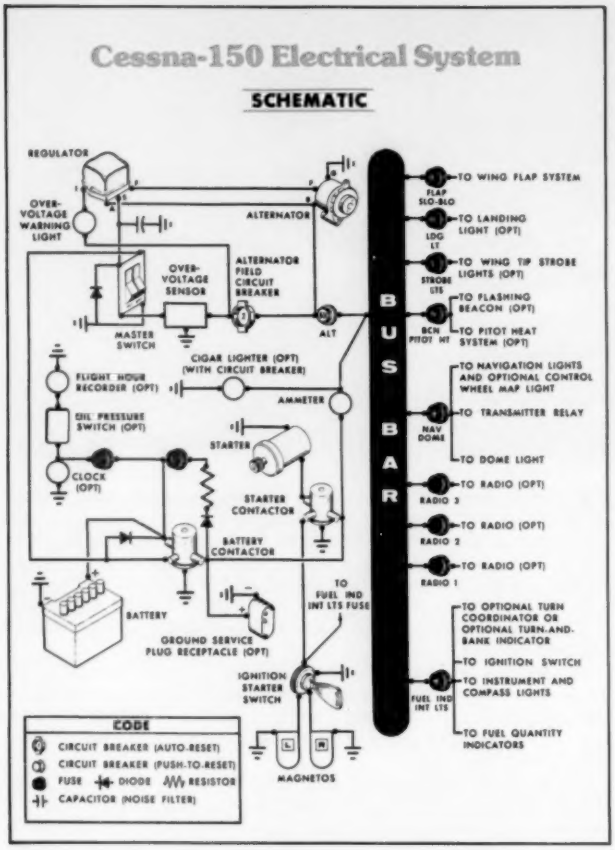
a) aux-fuel pump
b) avionics (all radio equipment except ELT)
c) defroster
d) de-icers
e) engine instruments
f) flaps
g) fuel gauges
h) landing gear
i) landing gear position indicator
j) lights—including panel instrument lights, warning lights, and cockpit illumination
k) pitot tube heater
l) stall-warning horn

NOTE: Some gyro-driven flight instruments, such as the turn coordinator or artificial horizon, may also be electrically driven in certain aircraft.

Inflight electrical power is provided by a generator or alternator, most of them belt-driven by the engine and basically similar to those used in automobiles. A battery, either 12 or 24 volts, is used to start the engines and power lights or radios when the engine is off. It also serves as a backup for electrical power aloft in the event of a generator/alternator



Battery Ammeter Loadmeter



failure. The third component of this system is the voltage regulator, which directs current from the charging source 'nto the battery when it is low-normally only after starting an engine.

This point is important for a correct reading of the two types of ammeters. One type, usually called a "loadmeter," measures the amperage being drawn from the charging system, on a scale from zero to maximum output. This ammeter refers only to the *generator/alternator output*, not to battery function. In flight, the loadmeter needle should move progressively up the scale as you turn on more electrical components, and descend as you turn them off. If the needle does not move, or descends without your shutting off electrical equipment, you have a failure in the charging system (or in the ammeter itself) and the battery may be supplying all electrical power.

Note that the loadmeter will not tell you directly that the battery is being discharged; you infer this from that lack of load indication on the generator/alternator. Some aircraft, usually older models, use the type of ammeter which is wired directly to the battery and shows the battery's approximate rate of charge or discharge. This type of meter should show a strong charge rate immediately after starting and a zero or very slight charge reading in cruise flight. *Any significant charge or discharge reading of the battery ammeter in flight will indicate a malfunction of the charging system and a depletion of the backup power.*

The difference between the two types of ammeters is important, because if a pilot normally flies with a center-zero (battery) meter in his panel he is used to seeing the needle on zero in flight; with a loadmeter this could indicate trouble. Either instrument will do the job, when read correctly.

Most inflight failures of the electrical system are located in the generator or alternator—perhaps because these are the only parts that are subjected to mechanical wear. Alternators, which have supplanted generators in recent years, have the advantage of supplying power at a much lower rpm rate then generators. The alternator has one significant disadvantage which must be remembered: it will not supply current when connected to a fully discharged battery (as a generator will). If you have an alternator and your battery is low, you are advised to start your engine from a ground power source, rather than risk flying off with a nearly depleted battery and a non-charging alternator. Your battery could have just enough power charge left to power your radios temporarily during your departure, since they draw very little amperage, but not enough to "excite" the alternator to begin charging. The battery would soon be depleted if the flight were to continue.

Whenever a battery has trouble starting up the engine, it is easy to assume the voltage is down because someone had left a switch on overnight, or that cold weather has made the engine very difficult to turn over, and all will be well once the engine starts up. But a weak battery often points an accusing finger at the charging system, which should be checked out carefully by a mechanic, or by monitoring the ammeter. A simple test is to turn the landing lights on and off after start-up. If your charging system is working, the loadmeter needle should move up and down or the battery ammeter needle should hold steady. Failure to do so could lead to electrical failure in critical conditions of flight.

This is what happened recently to the pilot of a Cessna *Skylane* who took off from Sanford, ME with two passengers on an IFR flight to Portsmouth, NH. The battery of the rented aircraft was very weak, which the pilot attributed to the wintry temperature on this March day, as he had personally checked to make sure all switches were off the night before. He got a ground power start and was on his way.

An ex-Navy pilot and used to generators, he assumed everything electrical was in order and did not bother to look at the ammeter after takeoff.

Table 1.

Electrical Load Analysis Chart for a Light Twin (Beech Baron)

Item	Number of units	Total amperes 24-volt system
A. *Continuous Load*		
Pitot Heat (Operating)	1	3.30
Wing Tip Lights	4	3.00
Heater Ignitor	1	1.20
**Navigation Receivers	1–4	1–2 each
**Communications Receivers	1–2	1–2 each
Fuel Indicator	2	0.76
Instrument Lights (overhead)	2	0.60
Engine Indicator	2	0.60
Compass Light	1	0.20
Landing Gear Indicator	1	0.17
Flap Indicator	1	0.17
B. *Intermittent Load*		
Starter	2	200.00
Landing Lights	2	17.80
Heater Blower Motor	1	14.00
Flap Motor	1	13.00
Landing Gear Motor	1	10.00
Cigarette Lighter	1	7.50
Transceiver (keyed)	1	5–7
Fuel Boost Pump	2	4.20
Cowl Flap Motor	2	2.00
Stall Warning Horn	1	1.50

**Amperage for radios varies with equipment. In general, the more recent the model, the less amperage required.
NOTE: Panel and indicator lights usually draw less than one amp.

Pilot Preventive Maintenance

Pilots are permitted to change fuses, light bulbs, reflectors, lenses, and broken wiring on landing lights. They may also check the battery charge (specific gravity) and fluid level and inspect the terminals for signs of corrosion (white powder) or leaks from cracks in the casing. The battery should be firmly attached to the frame and the environment free of loose metal objects which might fall across the terminals and cause a short or fire. Summon a mechanic if the generator/alternator seems loosely attached; or there is evidence of burning or arcing; or the belts are loose or cracked. The pilot may replace a dead battery, but that will not solve his problem if it was caused by a fault in the charging system.

Radio communications appeared normal as he received his IFR clearance and ascended to his en route altitude. Then "off" flags appeared on his OMNI instruments, and his communications radios faded out before he could notify air traffic control of his problem. He switched his transponder to the emergency code (7700), but by this time that instrument too was dead. He had a complete electrical failure, and he was flying in between solid layers of clouds at 6,000 feet on a busy New England airway. The next few minutes were very tense.

Attempting to reach Pease-Portsmouth (NH) Airport by dead reckoning, he realized that he had overflown his destination when he saw a Boeing 747 break through the clouds in a climb configuration. By cautiously backtracking the 747's flight path the *Skylane* pilot was able to break out over Boston's Logan Airport. His problems were not over yet.

With heavy jet traffic on the three major runways and visibility down to half a mile, he had to attempt a landing in instrument conditions without radar or radio contact. He circled the control tower twice and rocked his wings to signal radio failure but did not perceive any response. (Tower records show that at 11:40 a.m. local time the *Skylane* was observed circling in and out of clouds, whereupon all traffic was stopped and the Cessna was cleared by radio on 121.5 to land any runway. The emergency squads were dispatched to the crash site at 11:53, following an ELT signal reception.)

The pilot had elected to land on the short (2,468') runway 33R, as it appeared not in use. However, he landed with a 15 mph tailwind, was unable to lower flaps without electrical power, experienced hydroplaning on the wet surface, and overran the runway. The aircraft flipped over after the nosewheel strut sheared. The pilot exited the plane by kicking out a window and assisted his passengers to safety. There was no fire and, fortunately, no injuries.

A subsequent investigation of this accident disclosed that one of the brushes on the alternator had burned out and was no longer making contact. Small wonder that the battery was low. The pilot is now an avid ammeter reader.

Just how useful is the battery as a backup power source, after failure of the charging system in flight? That depends on the state of the battery. A fully charged 30 amp battery, for example, will supply 30 amps for one hour, or 15 amps for two hours—adequate for any light aircraft during that time period. However, no ammeter can tell you how much voltage remains in the battery at a given point in the flight—only a voltmeter wired into the battery circuit could do that.

Since few light aircraft have such an instrument, it is good practice to assume you are low on electrical power whenever your ammeters show that the charging system is not working normally, and/or the battery is discharging in flight. Make a precautionary landing as soon as convenient. In the meantime you can conserve battery power by turning off all electrical equipment you can do without. You will have to use judgement for such items as pitot heaters and navigation lights. Modern radio receivers and transponders draw minimal current, usually in the neighborhood of one or two amps, so these are usually left on. (See Table 1 for amperage loads.)

Frequent keying of the microphone uses considerable electricity, so try to get a complete message through on your first transmission, after acknowledgement. At night, locate anything you will need in the cabin (flashlight, gear crank, checklist, etc.) while you still have illumination. If you are depending on the battery only, and the battery ammeter needle begins to center itself, you know that you are just about out of current. Recall which instruments and equipment are electrically driven while making your descent, and plan your landing accordingly.

Circuit breakers may be in plain view or enclosed in pull-out panels.

Electrical failures in aircraft sometimes occur as a result of a short in the wiring or a sudden surge of electricity, or overload, which results in a blown fuse or popped-out circuit breaker. If the problem is a temporary overload, you can simply replace the fuse or reset the circuit breaker. One common cause of overload is leaving radios on when starting the engine.

FAR 91.33 requires that a complete spare set of fuses, or three fuses for each type required, be carried on board for IFR flight or VFR night flight.

Bear in mind that the circuit breaker is heat-actuated, and should be allowed to cool momentarily before being replaced. If the breaker continues to pop out despite these precautions, leave it out, turn off the associated component, and land as soon as the situation dictates.

With a little foresight, electrical failures will not lead to accidents. Reading the meter on the panel is not that difficult.

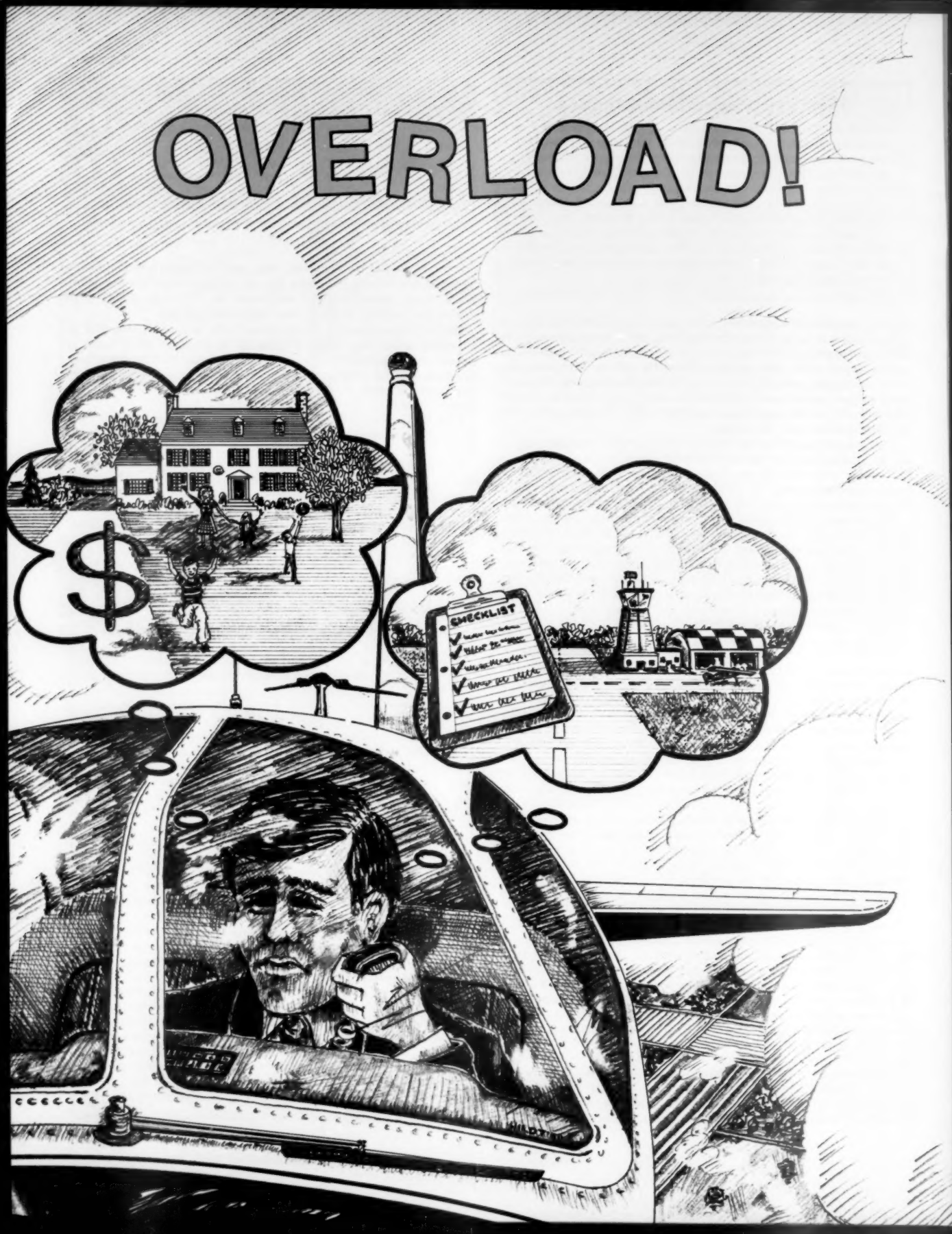
Why risk being out in the dark? ■

Emergency Procedures for Loss of Two-Way Radio Communication

- If failure occurs in IFR conditions or if VFR conditions cannot be maintained, the pilot shall continue the flight according to:

1. ROUTE
   a. By the route assigned in the last ATC clearance received;
   b. If being radar-vectored, by the direct route from the point of radio failure to the fix, route, or airway specified in the vector clearance;
   c. If there is no assigned route, by the route that ATC has advised may be expected in a further clearance;
   d. If there is no assigned route and no route that ATC has advised may be expected in a further clearance, by the route filed in the flight plan.
2. ALTITUDE—at the *highest* of the following altitudes or flight levels *for the route segment being flown*
   a. The altitude or flight level assigned, in the last ATC clearance received;
   b. The minimum altitude or flight level as prescribed in FAR 91.82(c);
   c. The altitude or flight level ATC has advised may be expected in a further clearance.

- If failure occurs under VFR conditions, *land as soon as practicable.*
- If minimal power remains, transmit a may-day over the radio, then turn off the radio and everything except the transponder. Tune the transponder to code 7700 for one minute to indicate emergency, then tune code 7600 for 15 minutes to indicate two-way communications failure. The transponder uses less power than the transceiver, and this procedure enables special attention to be given your problem by air traffic control, provided, of course, you are under radar coverage. If not, use your radio sparingly.


OVERLOAD!
CHECKLIST

All that hangs heavy in the airplane is not measurable weight

The accident at Lunken/Cincinnati appeared commonplace at first glance. The pilot failed to switch from tip tanks to mains before landing, lost his left engine on final due to fuel starvation, swerved off the runway, landed hard on wet grass and groundlooped before coming to a stop just short of a tractor mower. He was fortunate to escape with minor injuries; damage was substantial. Pilot error, again.

But there were several puzzling aspects. The pilot was ex-Air Force with over 6,000 hours of accident-free flight time. He was executive vice-president of a Virginia engineering firm with a reputation for perfectionism. He was flying his company's *Golden Eagle* (Cessna 421), a light twin whose purchase he had personally overseen, and in which he had logged over 500 hours. He held an ATR certificate with no restrictions. His medical and biennial flight review were up to date. He was the kind of pilot you "feel safer with than when driving your own car." Weather was VFR, and he was not under any particular time pressure. What went wrong?

A computer is sometimes said to be "overloaded" when it receives input at a faster rate than it can handle, and consequently it shuts down. The human mind, similarly, can become overloaded, or "task saturated," but instead of shutting down completely it may become prone to error, capable of simple, rudimentary mistakes.

"Task Saturation"

Certain conditions of flight, such as deteriorating weather, mechanical malfunction, single-pilot operation in complex aircraft, heavy traffic, etc. can build up a heavy pilot load; but normally the well-trained pilot is quite capable of handling the load with appropriate assignment of priorities. However, if his mind is simultaneously agonizing over insoluble personal problems, task saturation becomes a threat to his safety. A follow-up investigation of the 421 pilot indicated he was indeed a victim of overload.

The pilot acknowledged, during his interview after the accident, that his mind had been preoccupied recently with the emotionally painful proceedings of his divorce, involving custody of his three children, to whom he was closely attached, and the breaking up of a large country estate near Culpeper, Va., that had been in his family for five generations. Plagued with misgivings and guilt feelings, he had become "somewhat irascible" at the office of late and impatient with colleagues. In fact, his decision to fly to Cincinnati, on the day of the accident, had followed an unsatisfying telephone discussion with company representatives there who were having problems with a new water treatment project. He admitted that his decision was influenced by a desire to "get away from things for a while and think things out." For the same reason he did not invite anyone else from the office to fly with him.

No Problem En Route

On his way down to Culpeper/Martin Airport that morning he had obtained a weather briefing by car radiophone. With VFR weather forecast all along his route he did not bother to file a flight plan for the two-hour flight, but took off in the *Eagle* after a quick but thorough preflight check.

Airborne and cruising at 8,500 feet and his checklists completed, he set his OMNI on the 270° radial and turned on the autopilot. Time went by very quickly, and he found himself over the Ohio River near Portsmouth before he had been able to sort out any of the contradictions of his family situation. He began his letdown, contacted the FSS at Lunken for terminal weather, and called the tower for landing instructions.

The pilot's request for a straight-in approach to Runway 02R was accepted, but approximately one-quarter mile out just as he was going through his prelanding checklist, he received word that a commuter jet, cleared for takeoff, was having mechanical problems. The 421 was vectored around to the pattern for the shorter Runway 02L. Annoyed, he repeated his request for 02R, and was asked if he were low on fuel. Acknowledging that he was not, he reluctantly entered the pattern, where he was Number 4 to land behind a Mooney and two Cessna 150s.

He saw the second 150 make a tardy, clumsy, wide turn from base that required almost a 180° correction in order to line up with the runway. The *Golden Eagle* pilot was obliged to widen his own pattern and slow the twin down to minimum safe airspeed.

His annoyance was considerable. He watched the 150 weave its way down to the ground and finally bounce into a landing before he turned on final himself. He was about 100 feet from touchdown when the left engine sputtered, coughed and died. In that instant he remembered his interrupted checklist—he had been on the point of switching from tiptanks to mains—and he realized he must have run the left tip dry. He yanked the selector over, but the engine did not restart. He elected to continue the landing, added enough power to the right engine to avert the incipient stall, and did an admirable job of coping with the problems of assymetric thrust as he brought the crippled *Eagle* to a stop, only a few yards from disaster.

Functional Disruption

"Boring holes in the sky" for relaxation or for mulling over personal problems might have been a good idea 40 or 50 years ago, when airplanes were simpler and air traffic sparse. But the contemporary flight environment calls for constant alertness to the situation at hand; and the cockpit of a sophisticated airplane is no place to bring a worried mind. As the physical demand of the airplane on the pilot has lessened, the number of sequential functions has increased; and worrying can interfere with ordinary functioning.

It is not simply a problem of mental fatigue. Mental overload can lock the brain into a logical thinking mode, and result in overriding or ignoring habitual, functional responses to flight situations.

A pilot is more likely to become locked into this kind of thinking when he flies alone than if he shares cockpit duties with another pilot, or has the companionship of a passenger. Privacy may be essential for introspective thought, but an aircraft is not.

Carrying burdensome thoughts aloft can put you well beyond the gross weight limit. ■

(Certain details of the accident described in this article have been altered to preserve anonymity.)

TCA and the VFR Pilot—Revisited

Learning to live with a not-so-wild blue yonder

TCA (for Terminal Control Area) is an idea FAA has been using for the past ten years in the airspace surrounding the nation's busiest and largest airports, in order to handle the varied mixture of IFR and VFR traffic with a smooth traffic flow and maximum safety. Between 1969 and 1975 21 Terminal Control Areas were installed, to service airports which were handling at least one percent of all nationally enplaning passengers.

After a decade of experience and evaluation, the agency is convinced that TCAs are the most effective and economical means of preventing midair collisions in complex terminal areas. The number of fatal midair collisions involving air carriers dropped to zero in the TCAs, and the number of near-midair collisions also was reduced significantly. Within the next five years TCA coverage could be extended to an additional 30 or more major airports, where annual passenger enplanements total 650,000 or more per year.

For general aviation pilots who prefer to fly VFR this means two things: One, assurance of continued access to all civilian airports, air carrier-oriented or otherwise, on a first come, first serve basis. Two, a need to understand the TCA concept and the manner in which it can be used correctly and safely. An inadvertent penetration of a TCA can be very dangerous, as well as illegal.

What exactly is a TCA? A Terminal Control Area is an inverted "wedding-cake" of airspace around a major airport, usually extending up to 7,000′ MSL, 8,000′ MSL or even 12,500′ MSL, roughly 40 nautical miles in diameter at the top layer, in which *all aviation traffic is under positive control.*

Positive control means that the aircraft's position and altitude and the pilot's intentions are known to an air traffic controller in the tower at all times. Group I TCAs, which currently are made up of the nine busiest air carrier airports in the United States, require participants to have a two-way radio, VOR or TACAN, altitude encoding transponder, and a private pilot certificate or better. Group II TCAs, 12 in all, which comprise the remainder of the busiest air carrier airports, have the same basic requirements except that they may be used by student pilots, and without the altitude-encoding feature of the transponder.

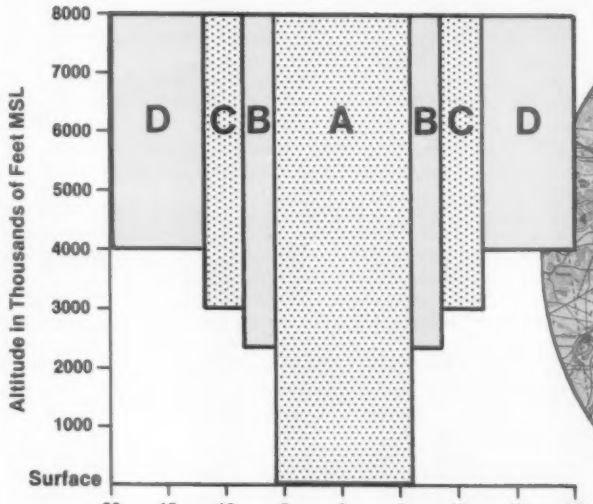
The typical TCA has a central column of airspace directly over the primary airport. This column is approximately 10–16 nautical miles in diameter at ground level, with several lateral extensions encircling the core at higher elevations called "floors." The design is broad enough at the upper levels to protect the runway approach and departure paths; and narrow enough or suitably indented near the ground to allow access to general aviation airports near the main facility.

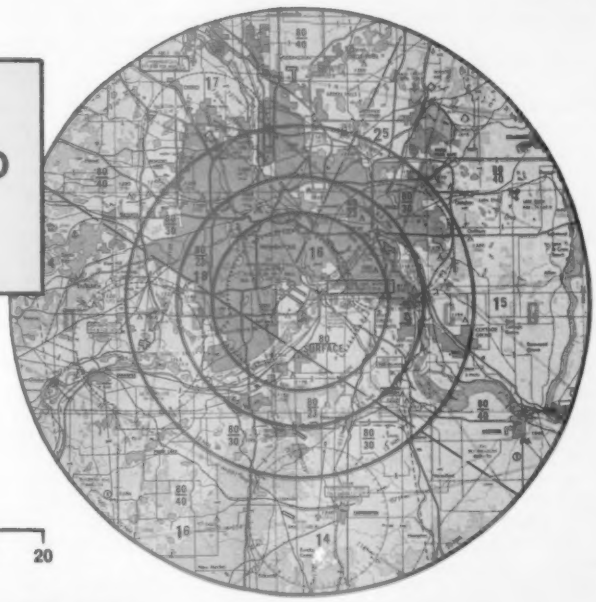
At Minneapolis-St. Paul, for example, the inner "cylinder" of the TCA has a diameter of 12 nautical miles from the surface to 2,300′ MSL. At this level the TCA is extended laterally to enclose a circular block of airspace 17 miles in diameter. At 3,000′ MSL the diameter of the protected area is extended to 24 miles. At 4,000′ the TCA is extended laterally to its maximum diameter, 40 miles, and includes the airspace between 4,000′ and 8,000′. At Minneapolis all the concentric "rings" of airspace are perfectly circular.

The New Orleans TCA, on the other hand, has only two outer rings surrounding the central core, or cylinder of airspace, with several inden-

Accommodating scheduled air traffic and random operations in a TCA.

Overhead View of New Orleans Terminal Control Area





A = Surface to 8,000 ft. MSL C = 3,000' MSL to 8,000 ft. MSL
B = 2300' MSL to 8,000 ft. MSL D = 4,000' MSL to 8,000 ft. MSL

Overhead and Side Views of Minn./St. Paul Terminal Control Area

Approaches in Washington National's TCA are complicated by the several Prohibited Areas around national monuments and traffic from eight general aviation airports and three military fields.

tations or "scallops" to accommodate access to nearby airports and to protect departure and approaches at the longest runway. New Orleans also has a feature which has been incorporated at some Terminal Control Areas to accommodate transitting VFR traffic: a flyway, or corridor, which allows VFR traffic to transit the area in an east-west movement without contacting the tower, and without having to fly out over Lake Pontchartrain. This corridor is one mile wide, with a floor of 1,000′ MSL and a ceiling of 2,000′.

Pilots intending to penetrate or fly near a major airport should first ascertain whether a TCA exists there (it will be indicated on the sectional chart). For safe penetration of the area, however, the pilot should not rely solely on the sectional chart, but should also obtain a current VFR Terminal Area chart.

These large-scale maps show clearly the detail of landscape which the pilot will need to identify in order to orient himself accurately to the TCA boundaries. TCA charts also show the appropriate frequencies for contacting air traffic control before penetrating the TCA. Frequencies differ according to altitude and aircraft bearing. The special TCA charts highlight geographical features and fix points likely to be used by controllers in vectoring VFR traffic. Note that the names shown and used by air traffic control to identify checkpoints may not always be the official names of the site.

Normally the pilot who calls in on the correct frequency will be radar-identified promptly, assigned a discrete frequency, vectored and sequenced for landing at his airport of destination—or given vectors for flying through the area. At times of heavy traffic flow the pilot may expect frequent course or altitude changes; and at peak hours at some of the busiest airports, delays may be experienced. Occasionally a terminal control area may become so heavily saturated with traffic that all departing or arriving aircraft, IFR as well as VFR, may be temporarily inconvenienced with delays. During peak hours at the busiest airports, operations may exceed 100 per hour. At any given moment of a peak hour an "Instantaneous Radar Scan" may show as many as 300 aircraft aloft in the largest Terminal Control Area.

Delays and detours can be minimized if the pilot contacts Approach Control well before reaching the outer ring of the TCA. This is especially true of the transiting pilot, who may be able to alter his course, underfly, or overfly the area with little actual loss of time or fuel.

Pilots who use the VFR corridors to pass through a TCA must be careful to remain within the boundaries of the unprotected airspace at all times, and to keep a sharp eye out for other traffic. Air traffic control does not monitor aircraft movements in VFR corridors, although the controllers will issue traffic advisories on request, workload permitting. Corridors are relatively narrow, and in some cases the flyways are near heavy flows of IFR traffic inside the TCA boundary; accurate navigating and continual vigilance are a must. Pilots not based near the TCA should study their terminal area chart beforehand, and be able to associate TCA boundaries with prominent landmarks.

Good scanning habits are important when flying *within* the TCA as well as outside. The degree of safety, as regards separation from other aircraft, when flying under positive control, is very great indeed; but the possibility of equipment or human error *can never be ruled out entirely*. The VFR pilot is advised to fly his airplane at all times with a sense of personal responsibility for his own safety. He is *not* expected to follow controller advisories blindly. If he becomes aware of what seems to him a potential conflict with another aircraft, he should not hesitate to report it. He should not change course without air traffic control approval, unless confronted with an immediate emergency.

Spotting potential collision threats is not simply a question of the time spent looking outside. Undisciplined eyes tend to wander ineffectively across space, or to focus on a fixed area of the sky; for effective scanning the pilot must deliberately shift his focus with short, regular movements which progressively cover the entire visible environment. Each movement should not exceed 10 degrees, and each area should be observed for at least one second.

Peripheral vision is very important for observing moving objects at considerable distance. Progressive refocusing of the eyes results in maximum effectiveness of your peripheral vision. This is especially important at night, when targets observable only as very dim lights can be picked up in this manner.

Not only the eyes, but the head and body should be moved as necessary to scan the area hidden by cockpit structures, such as door or window posts. A very large jet could be masked out by a very thin post.

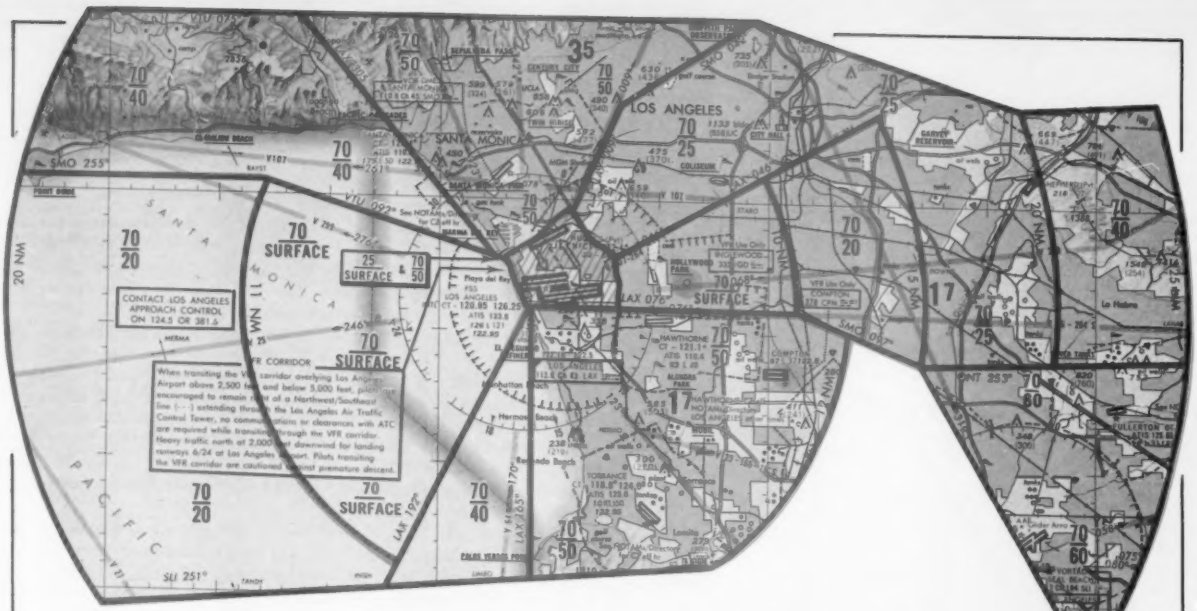
(Pilots interested in improving their scan ability should see the slide show program "Take Two and See," produced by the AOPA Air Safety Foundation and available on loan from their office at 7315 Wisconsin Ave., Washington, DC 20014, or from local FAA Flight Standards or General Aviation District Offices.)

Although some VFR pilots resent the Terminal Control Area as an "encroachment on free airspace," most general aviation pilots who have become familiar with flying in TCAs welcome the reassuring aspect of positive control, especially when they are flying light planes and sharing the airspace at busy terminals with huge transport aircraft and jets of all kinds.

In effect the TCA can be viewed as an extention of the airport traffic area at a major airport. The heavy flow and mix of traffic exists before the TCA is installed; by extending the jurisdiction of air traffic control a safer environment is created for all who participate.

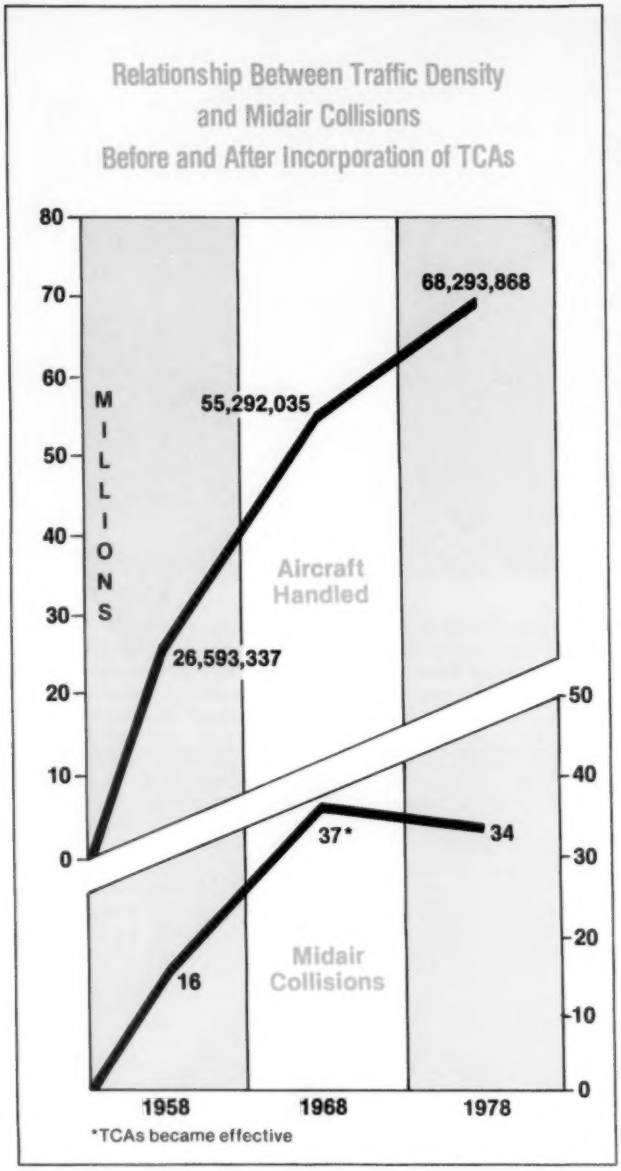
Historically the great majority of midair accidents involving general aviation have taken place at the smaller, uncontrolled airports. However, the potential for disastrous collisions between air carriers and light aircraft, such as the San Diego accident in 1978 which claimed 146 lives, appears to be increasing at major airport hubs which do not have a Terminal Control Area. (A Group II TCA was installed in San Diego, effective May 15, 1980.)

A recent analysis of near-midair collision data recorded by FAA for a 33 month period (January 1976 through September 1978) disclosed some interesting facts. Of the 1,006 near-midairs reported overall, 129 involved an air carrier and a general aviation aircraft operating below 10,000 feet and within 30 miles of an airport of destination. Typically the air carrier was operating IFR, while the general aviation aircraft was flying VFR and not under air traffic control. Over the past 20 years the number of actual midair collisions between air carriers and general aviation has averaged slightly less than one per year, but one such accident is quite enough to blight an otherwise excellent aviation safety record, and to stir up public pressure to eliminate light aircraft from the airspace surrounding major air carrier airports.


LOS ANGELES
SANTA MONICA
SANTA MONICA BAY
PACIFIC
70 SURFACE
25 SURFACE & 70
CONTACT LOS ANGELES APPROACH CONTROL ON 124.5 OR 381.6
VFR CORRIDOR
When transiting the VFR corridor overlying Los Angeles Airport above 2,500 feet and below 5,000 feet, pilots are encouraged to remain east of a Northwest/Southeast line (- - -) extending through the Los Angeles Air Traffic Control Tower, no communications or clearances with ATC are required while transiting through the VFR corridor. Heavy traffic north at 2,000 feet downwind for landing runways 6/24 at Los Angeles Airport. Pilots transiting the VFR corridor are cautioned against premature descent.
SMO 255°
SLI 251°
LAX 076°
LAX 165°
LAX 197°
20 NM
11 NM
17

Overhead View of Los Angeles Terminal Control Area

(VFR corridor above 2500' and below 5,000' MSL.)



There is no question that the decade ahead will see more aircraft competing for this airspace. Current projections show that the present civilian airfleet of approximately 200,000 aircraft will jump to 300,000 by 1990. The number of active pilots, now about 800,000, is expected to surpass one million within ten years. At the same time, new airport construction and expansion has slowed considerably, and is not expected to change its pace during a period of inflation and environmental concerns.

On the air carrier side, passenger enplanements are now in the area of 300 million per year. Before the decade is out this is expected to rise by 50% to 450 million. With greater air carrier dependence on wide-bodied jets carrying 300 or more persons, and the current shift to larger commuter and air taxi aircraft, the potential fatality total from any midair accident involving a commercial air carrier is very high.

The Terminal Control Area concept is only one of the measures FAA is taking to maintain air safety while accommodating more aircraft and more people within a given block of airspace. Both airborne and ground-based collision avoidance systems are being developed, based on an enhanced air traffic control radar system, and are expected to be in use by mid-decade.

Ground based collision avoidance will use specially programmed computers to monitor traffic flow and anticipate potential midair conflicts as long as four minutes in advance. The appropriate controller will be advised, and he will contact the pilots. No additional airborne avionics will be needed, although eventually air carriers will be required to have "Discrete Address" transponders.

Bear in mind that all ground-based collision avoidance systems being developed by FAA derive their conflict information ultimately from radar tracking of known aircraft. Their purpose will be to lessen the likelihood of a midair collision between "known" aircraft—i.e., aircraft being worked by traffic control. Essential information, such as altitude and pilot intentions, of aircraft not under air traffic control would not be known. The cost of any automated collision avoidance system that could deal successfully with "unknowns" would be prohibitive, and probably not feasible in a crowded airspace, where unforeseen mechanical errors could be calamitous.

Sophisticated airborne collision avoidance systems are being developed which will provide a cockpit warning display, with a resolution advisory. Suitable display equipment may be required for air carriers, approximately by 1985.

For general aviation pilots who wish to continue flying VFR with a minimum of required equipment and with a maximum degree of individual responsibility, the TCA concept appears the best solution. Like a one-way street system, it sometimes prevents you from going directly to your destination, but on the whole it gets you there faster. Furthermore, the pilot remains the captain of his ship. In a TCA the pilot reserves the right to decline any vector that, in his judgment, might jeopardize his safety or legality. He loses some freedom of maneuverability in the TCA airspace near large airports, but this is traded off against continued access to every airport in the country, with greater safety than ever.

Not a bad deal. No other country offers anything like this much freedom in the air. ■

Current TCA's
(excluding San Diego)

GROUP I

Atlanta, Georgia
Boston, Massachusetts
Chicago, Illinois
Dallas-Ft. Worth, Texas
Los Angeles, California
Miami, Florida
New York (Kennedy, LaGuardia, Newark)
San Francisco, California
Washington, D.C.

GROUP II

Cleveland, Ohio
Denver, Colorado
Detroit, Michigan
Houston, Texas
Kansas City, Missouri
Las Vegas, Nevada
Minneapolis, Minnesota
New Orleans, Louisiana
Philadelphia, Pennsylvania
Pittsburgh, Pennsylvania
Seattle, Washington
St.Louis, Missouri

Projected Growth for Aircraft, Airmen and Traffic

	1978	*1988*
Aircraft	186,795	285,814
Airmen	796,833	1,951,000
Operations at Airports with ATC	68,293,868	97,100,000

Louise Thaden

The Lady Tortoise who Outraced Jack Rabbit

"You know life stays a challenge as long as you look around and find the challenges. And that's what this life is about, I guess. It has to be about something, so it is about challenges. So long as you can find them you stay very much alive."

The given name of the lady who made that statement means "pugnacious," and she lived up to it. Who else would break every speed, endurance and altitude record for women she could find, and then go on to win the Bendix Transcontinental Race against the world's best pilots, male or female, in an odd-looking biplane never designed for speed?

Louise McPhetridge Thaden was born in Bentonville, a small town in northwest Arkansas, on November 12, 1905. At the early age of seven she showed an interest in aviation—jumping off the barn roof with an oversized umbrella, in the time-honored tradition.

Louise was not sure what she wanted to do with her life. In school she kept changing majors and never received a diploma. At age 15 she enrolled in college, then left after two years to go to work for the J. H. Turner Coal Company of Wichita, Kansas, selling coal, fuel oil and building materials. Her aviation dreams resurfaced when she found out that her boss, Turner, was a large stockholder in the Travel Air Aircraft Company, Louise soon wangled an introduction to Walter Beech, President of Travel Air, and began to haunt his plant on weekends, badgering the workmen with her insatiable curiosity about airplanes. She promised herself that she would learn to fly and that she was "going to get into aviation no matter how long or laborious the process."

Her employer, Turner, soon discovered Louise was spending more time at the Travel Air factory than she did in selling his products. Summoned to his office for what she was sure would be an angry dismissal, Louise was puzzled when he questioned her at length about her aviation interest. Puzzlement turned to delight several days later when Turner's friend Beech offered to train this slender, dark-haired, attractive and determined young women in aircraft sales promotion. He assigned her to his distributorship in San Francisco, where she learned to fly.

In 1928 Louise set out to boost *Travel Airs'* reputation with a spate of record breaking flights, beginning with the women's endurance mark, which she captured by circling Oakland Airport for 22 hours. The altitude record was next. In March of 1929 she shot her plane to over 20,000 feet—using makeshift oxygen equipment consisting of a small metal cylinder, an ether mask, a pair of pliers and a rubber hose. Crude, but it worked. In May of 1929, she went after the speed record. With the help of a special set of speed wings provided by Walter Beech, her *Travel Air* hit a speed of 156 mph. As the holder of the women's solo endurance, altitude and speed records, Louise became an overnight celebrity on the West Coast. She added to her fame that same year by winning the Women's Air Derby from Santa Monica, Cal., to Cleveland, Ohio.

The record setting and racing came to a stop in 1930, when she embarked on a new career: full time wife and mother. Her husband was a young engineer, Herb Von Thaden, who had started his own airplane factory to produce an all metal plane, the *Tin Goslin*.

By 1934 the Thadens with two children were feeling the pinch of depression and Herb was no longer with the aircraft company. So Louise followed Blanche Noyes' footsteps to Washington, D.C., and a job with the Bureau of Commerce's Air Marking Service. She embarked on endless junkets around the country to enlist local support in the Air Marking Program.

In August of 1936, Blanche Noyes and Louise were in San Antonio trying to talk the Texas state authorities into air-marking 600 towns. At the motel one night the phone rang and a voice said, "Hello, Louise? Say, would you like to fly in the Bendix Trophy Race this year?"

The call was from Ann Beech and straight out of the blue. The Bendix was the premier annual transcontinental race of the year, and traditionally all male. Furthermore, the airplane she was being offered hardly looked like a modern racer. Walter Beech had sold his *Travel Air* interests and was now concentrating on a new model, a closed cabin biplane with the upper wing resting on the cabin somewhat aft of the lower wing. This so-called "negative Staggerwing" Model 17 was designed for greater stability, visibility and lift efficiency, rather than for speed. The biplane era was almost over. How did Beech expect her to compete with the sleek new designs that would be battling for the Bendix money and international prestige?

The stubby biplane with the fabric-covered frame (and prominent ribs) she found waiting for her was powered by a Wright 420 hp engine that had already logged over 1,200 hours—hardly factory fresh. About the only concession to speed she could see was the streamlining of the wheel cover fairings. Cooperation from Beech's pilots—who resented seeing their entry in the Bendix offered to a woman—was minimal to zero. There was not only a dearth of spare parts, but also an absence of some essential instruments and equipment. Somehow Louise and Blanche, as her copilot, flew into New York in time for the great race on Sept. 7.

This race, Louise decided early on, was long enough to belong not necessarily to the swift, but perhaps to the patient. If there was one thing she had learned from her interminable travels as an air marker, it was to always know where you are, and never overheat the engine.

The Bendix rules were simple. Leave anytime you wished after the final briefing, but arrive in Los Angeles before 6:00 p.m. (same day) or you are disqualified. Land as often or where you like. The best overall time wins the $10,000 prize.

Louise and Blanche got an early pre-dawn start (4:30 a.m.), but found themselves surrounded by clouds before they had gone a hundred miles. Static obliterated reception on their low frequency radio, so Louise had to rely on dead reckoning until she flew out of clouds near Pittsburgh.

During a refueling stop at Wichita, Walter Beech learned that his pilot was using only 65% power. "What the hell do you think you're in, a potatoe race?" he roared. "Open this damn thing up!" Louise said meekly, "Yes sir," and continued on her way—at 65% power.

Late that afternoon the two women sighted Los Angeles Airport, so heavily shrouded in fog that they actually crossed the finish line in the wrong direction, taxiing sheepishly to the ramp. They were suddenly engulfed by a crowd of people. Louise had won the race.

Using only cruise power the *Staggerwing* crew had finished 45 minutes ahead of their nearest competitor, who, to rub salt in wounded vanities, was also a woman, Laura Ingalls. Louise was given an additional $2,500 prize for best woman pilot's time (14:55:01). Her average airspeed was 165.346 mph.

After the race Louise resumed her association with Beech as a demonstration flyer and sales promoter. She went on to win other races and other honors, but nothing she did ever matched the thrill of beating the best male pilots in the world at what used to be considered their own game. After Bendix 1936, it was anybody's game.

Louise Thaden died in Highpoint, N.C., on November 9, 1979, just three days short of her 74th birthday. ■

Flight Restrictions Around Volcanic Mt. St. Helens

Pilots are cautioned that flying sightseers in or around the restricted area of Mt. St. Helens, the currently active volcano in southeastern Washington State, can be hazardous. The airspace is experiencing unusual conditions of turbulence and visibility, which may have been responsible for several accidents to light aircraft. The eruptive force of the volcano is enough to toss 3-ton boulders 1,000′ into the air, and chunks of ice "the size of a helicopter" have reportedly been blasted from the cone of the 10,000′ mountain.

Temporary flight restrictions now affect the airspace surrounding the mountain near Portland, OR on a 10 statute mile radius to the west, and a 20 mile radius to the east, from the surface to 60,000′MSL. Pilots who receive permission to enter this area are reminded that radar separation by air traffic control may not be available. Check NOTAMs at your FSS.

¡Felices Desembarcos en Mejico!

The government of Mexico has recently issued new regulations affecting all flights of foreign-registered general aviation aircraft into its territory. Under existing rules, even if a flight has begun at a U.S. border airport, its first stop *has to be made* at one of 27 entry and departure airports for customs, immigration, and health handling before the plane can proceed to its intended destination. However, the new rules have added several different airports to the list of entry/departure points and several are no longer included.

Some of the regulations affect the cargo and baggage that may be carried in non-commercial operations. Insurance coverage for damages to third parties on the ground in the event of an accident has been increased.

For happy landings south of the border, and to avoid delays, consult a border flight service station well before your departure to see how these rules will affect your trip. The new regulations will be discussed in greater detail in an upcoming issue of *FAA General Aviation News*.

Visually Cleared for Takeoff

FAA is evaluating a six-month field test of VICON (Visual Confirmation of Takeoff Clearance), a system for providing pilots with visual confirmation of radioed takeoff clearances from control towers.

"VICON" confirms the clearance when the controller illuminates a light panel at the appropriate runway end. Visual confirmation could eliminate the possibility of incorrect clearance reception, believed responsible for the tragic ground collision at Tenerife with 581 fatalities in 1977. VICON was tested at Hartford, CT.

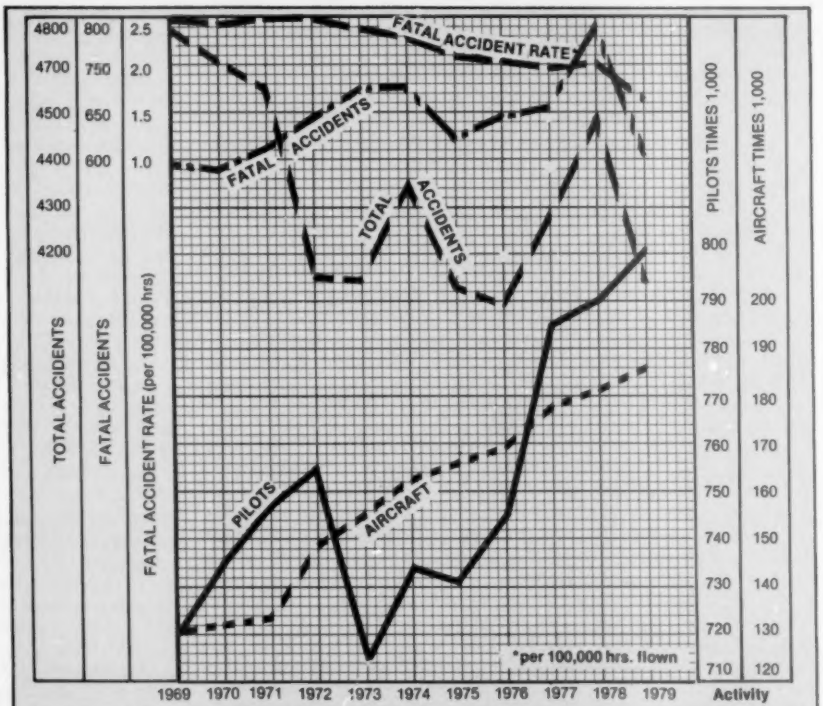
Clarifying Visibility Rules

Clarification of the visibility requirements for general aviation instrument landing procedures is under consideration as part of a proposed rule change to FARs 91.116 and 91.117.

Not everyone appears to understand that the responsibility given the pilot to determine prevailing visibility minimums from the cockpit means that he *must not* continue an approach below the minimum descent altitude (MDA) or decision height (DH) if the required visibility from his viewpoint is below minimums—even if the ground facility is reporting above-minimum conditions. Some pilots have not understood the rule to mean that if the slight visibility is reduced below published minimums at any time prior to touchdown, a missed approach must be executed.

Similarly, some pilots have evidently not known that the "markings identifiable with the runway," required by 91.117, are *in addition* to the weather minimums defined in the approach procedure.

The proposed changes would clarify the intent of these rules and incorporate them into a new Part 91.116. Additionally, the "identifiable markings" would be spelled out, to wit: either the runway, runway approach lights, threshold, threshold markings, threshold visual approach slope indicator (VASI), touchdown zone, or touchdown zone lights.



ACCIDENT STATISTICS IMPROVE. Increased participation by airmen and the aviation industry in accident prevention programs is credited by FAA for the reduction in general aviation accidents of all kinds in 1979. Total accidents decreased 6% over 1978, and fatal accidents 17%. The total accident rate per 100,000 hours flown dropped 7% and the fatal accident rate was 18%. The 1,311 fatality toll in general aviation was the lowest in nine years. Airman certification and aircraft showed a healthy increase.

• Vikings Can Spin?

We enjoyed very much the article on "Spin Awareness" (November/December 1979). The commentary was accurate and informative. However, we question your use of a Bellanca *Super Viking* as an illustration. The *Super Viking* is rated in the "normal" category, no spins permitted. We'd love to spin our *Super Viking* a couple of times, just to find out how it handles in case we're ever faced with the real thing, but the rules say we can't. Hopefully, your next article on aerobatic maneuvers will be accompanied by a photograph of an aircraft capable of safely and legally demonstrating them.

Patricia and Christopher
Kilgour
Phoenix, AZ

The aircraft in the picture is a Viking *rather than a* Super Viking *and was photographed at Transpo '72, for which appearance it had been modified by Bellanca for special maneuvers as an "experimental" aircraft. But you are correct: Do not spin a production model* Viking. *Not even on a bet.*

• "Invalid" Certificates?

In the letter "Change of Address" in the January/February 1980 "Forum," you reply that unless the Airman Certification Branch is notified of a change of address within 30 days of a move, the pilot certificate is "invalid." Is it truly invalid and thus illegal to fly until the notification is made?

J. Schwarz
Schenectady, NY

FAR 61.60 provides that the holder of a pilot or flight instructor certificate who has made a change in his permanent mailing address *may not after 30 days from the date of the change, exercise the privileges of his certificate unless he has notified the Airman Certification Branch in Oklahoma City of the new address. The word "invalid" was technically incorrect, however, the phrase "may not exercise the privileges of his certificate" is quite clear. Note that a pilot may move to a different residence without affecting his permanent mailing address.*

• Ground Time?

Can a flight instructor log as pilot-in-command time or instruction time any time he is on the ground but has supervised the student's flight?

Name Withheld

Negative. The flight instructor logs as instructor or PIC time only that time he is physically in the airplane.

• Anti-Collision Lights

I live near a large metropolitan airport, and recently I noted several air carrier aircraft taking off and landing without anti-collision lights on. Since I am the inventor of several of these devices, for which I gave the patents free to the government, I have been wondering if there is a change in the rule about the use of anti-collision lighting. What exactly is the rule?

Charles Adler, Jr.
Baltimore, MD

Transport category aircraft are required to have their anti-collision lights turned on during operating hours between sunset and sunrise. The FAR's also specify certain characteristics for the lighting systems such as field of coverage, flashing characteristics, light intentisy, and location on the airplane.

FAA also has a voluntary program, "Operation Lights On," which encourages pilots to turn on their anti-collision lights any time the engines are running—day or night, in the air or on the ground, in the vicinity of airports.

• More on Numbering Fixes

Mr. Swinnie's letter in the November/December 1979 issue about numbering rather than naming VORs and intersections is right on target. This can be a problem for pilots in unfamiliar territory. I propose that all en route charts be divided into nine equal segments, numbered one through nine, and all intersections, VORs, etc., in each section be assigned a letter of the alphabet. Using Low Altitude En Route chart L23 as an example, if the controller wanted to clear an aircraft to an intersection in section 9, he would tell the pilot, "Cleared to L239A." This would tell the pilot on L23 in section 9, he has been cleared to intersection A. Each section could use the entire alphabet, and if there were more than 26 intersections in a section, further subdivisions could be worked out.

Ray Carlson
Long Beach, IN

The system you propose has considerable merit, but it would be difficult to implement for several reasons; (1) The current system is in use worldwide, *and any changes we made may be confusing to foreign users of our airspace; (2) due to the overlap of charts, many fixes or navigation aids appear on more than one chart and under your system would have different designations, also adding to confusion; and (3) alphanumeric designations like L239A would require the use of the phonetic alphabet for identification, which would greatly lengthen the transmission time.*

• Safely Over-Gross?

If I fly my *Bonanza* five pounds over gross on a non-commercial flight and think I can do so safely, am I flying illegally? If so, would most insurance policies be void during that period?

Ted Farrell
Inglewood, CA

Any over gross flight operation, even one pound, would be illegal according to FAR 91.31 which provides in part that "no person may operate a civil aircraft without compliance with the operating limitations for that aircraft." Many insurance policies contain a waiver which disallows payment of a claim if non-compliance with the FAR's can be proved in connection with an accident.

• Engine-Out Incidents

In the January/February 1980 article, "One Engine Out," you mention that 94 engines failed at altitude and 52 on takeoff/climbout. It has often been said that an engine failure is most likely to occur at the first power reduction. The twin engine failure statistics in the article do not seem all that indicative of failures at the first power reduction. Are there any statistics to back up when engines are most likely to fail?

John L. Martin
Piscataway, NJ

Unfortunately, negative. As stated in the article, many engine failures in flight go unreported when the pilot is able to land without damage or injury.

FAA GENERAL AVIATION NEWS welcomes comments from our readers. No anonymous letters will be used, but names will be withheld on request. Address: FAA GENERAL AVIATION NEWS, AFO-807, Washington, D.C. 20591.

• Triumph by Association

The article in the January/February 1980 issue about Blanche Noyes was very fine. However, it was in error in stating that Mrs. Noyes was the winner of the 1936 Bendix Race. That honor went to Louise Thaden. Blanche Noyes served as her co-pilot in that race.

Joe Knox
Greensboro, NC

Right you are. Louise is given her due in this issue's Famous Flyers story (p. 13).

• Accident Reports

Under "Briefs" in the January/February 1980 issue, I noted with interest the article "Chopped Baggage" because a friend of mine died in a similar accident. How could I get a copy of the accident report assuming it is public information?

Lee R. Hallerberg
Costa Mesa, CA

Once the accident investigation has been completed, pertinent factual information is kept in a file in the Public Inquiry section of the National Transportation Safety Board in Washington, DC. To request a copy of an accident report, send all identifying data you can (date, airplane, N-number, pilot's name, accident location) to Public Inquiry Section, National Transportation Safety Board, Washington, DC, 20594.

• TCA Formula

Please advise how an IFR flight in a light plane can be completed through the New York TCA en route to New England on Victor Airway 3 without being routed to upstate Pennsylvania or out to sea. Both cost time and fuel. If you know a "formula" kindly advise, and many pilots will be grateful for hundreds of hours and volumes of fuel saved.

Robert Buher
Baltimore, MD

Because of the heavy arriving/departing traffic flow in the New York TCA (which overlies three major international airports as well as some 21 general aviation airports), direct routing of transiting IFR traffic through the TCA on V3 during busy daylight hours is unlikely. You may ask to overfly the TCA and indicate the highest altitude you can accept. If you do not want the over-water route, you may decline it and be reassigned a land route.

INSTRUMENT CORNER

• Holding Pattern Approaches

If an approach depicts a holding pattern at the final approach fix with the inbound leg aligned with the intermediate segment of the approach, what is the proper procedure for a course reversal where the restriction against making the approach from the holding pattern applies? Is it acceptable to extend the outbound leg in the holding pattern for an additional minute, for instance, while staying within the 10-mile limit, then turn inbound, and, when established on the intermediate segment begin descent and complete the approach?

Thomas E. Miller
Ballston Spa, NY

Affirmative. The outbound leg may be extended as long as the aircraft stays within the 10-NM limit; however, unless otherwise restricted by an indication on the approach plate (see Airman's Information Manual paragraph 371 a and b), the type and rate of the procedure turn and where it is begun is left to the discretion of the pilot.

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Third class bulk
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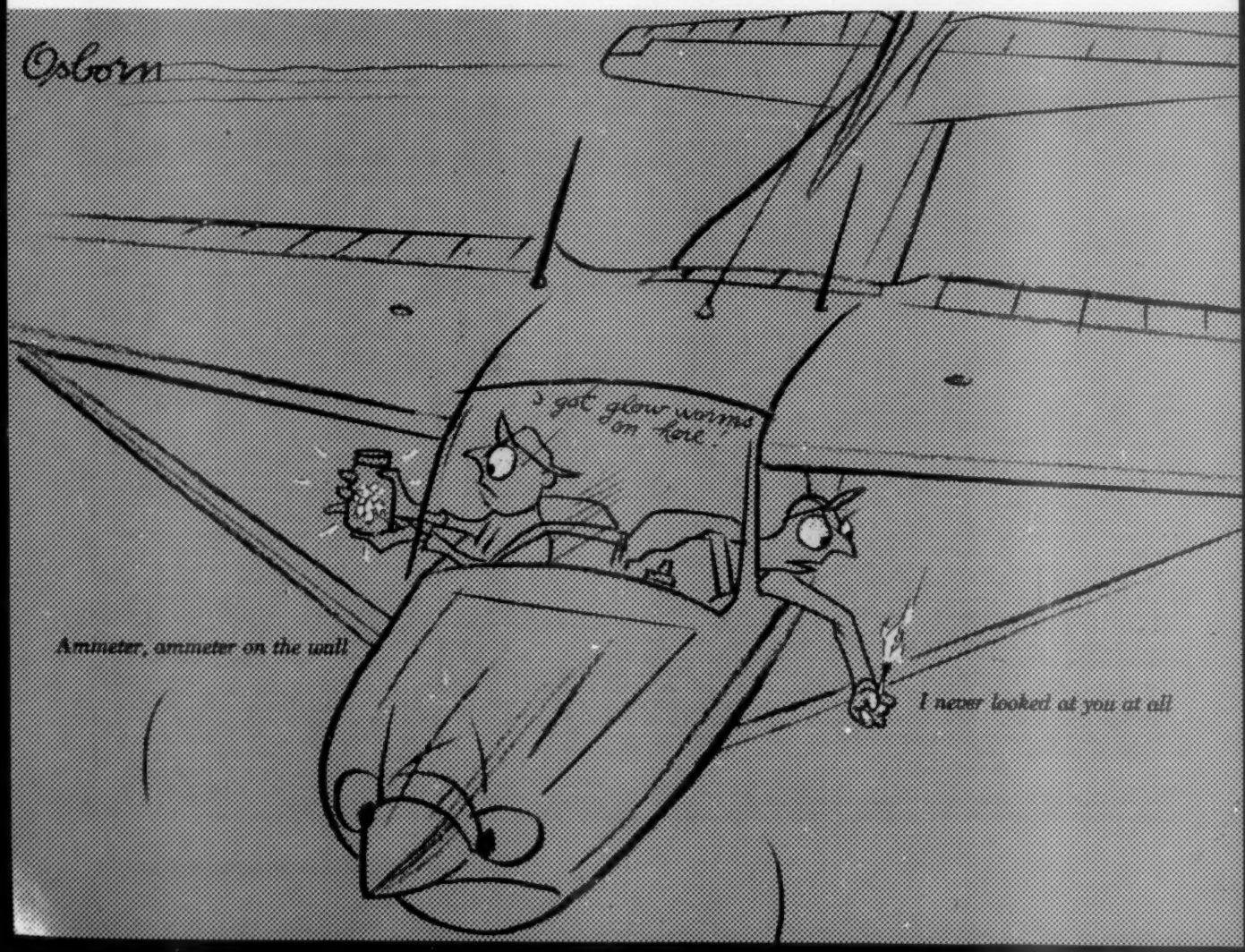
FAN SER1A300SAISSDUE005R 1
SERIALS PROCESSING
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